



MKD18ST1T010-021

## ORANGE Series

# 1.8" SATA II and SATA III Solid State Drives

### Overview

Memkor's 3rd generation Orange Series SATA SSDs aim to provide the highest throughput performance combined with the highest densities currently available. Memkor offers up to 2048GB MLC or 1024GB SLC NAND in a standard 1.8" form factor.

Memkor's Orange Series SSDs includes on all models options for Write Protect, military grade Secure Erase features, provide built-in hardware AES-256 encryption engine and built in firmware functions enabling either traditional FIPS-like or OPAL or CSfC data at rest protection management scenarios.

State of the art flash management techniques combined with a strong EDC/ECC/CRC and end-to-end data protection approach ensures performance stability and consistency, along with the highest reliability and unparalleled user data integrity. SMART includes attributes enabling monitoring end-to-end SSD and data reliability parameters

Sudden power loss safeguards integrated in software and hardware ensures data at rest protection and integrity.

Memkor Orange Series SSDs are built to meet both Commercial and Defense focused environmental requirements.

Loyal to Defense and Industrial Markets, Memkor offers locked Bill-of-Materials utilizing high reliability components, firmware tailoring and is committed to providing excellent customer service throughout product life cycle and Supply Chain component management for long-term deployment applications.

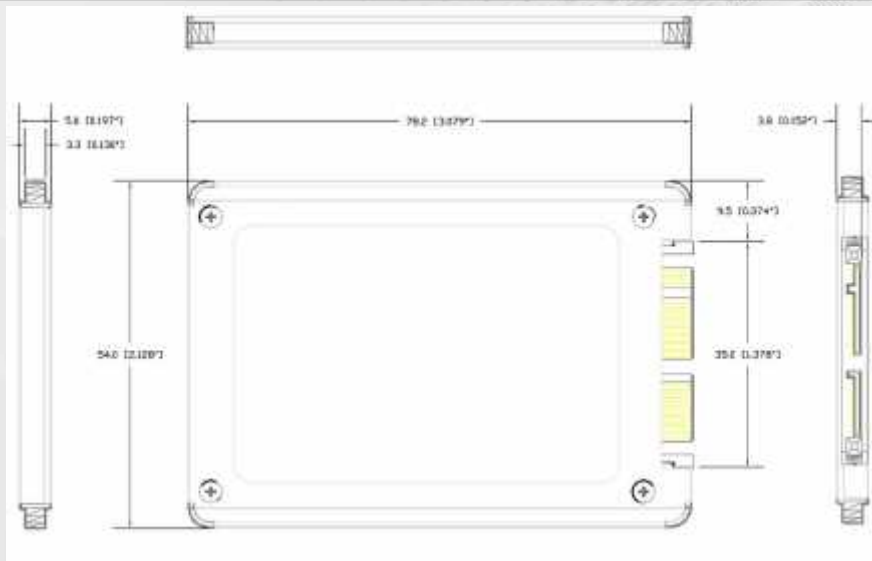
### Features and Values

- High capacity in more compact package than 2.5"
- More capacity, more rugged than mSATA and M.2
- Smallest FF that achieves SATA III speed limits
- Storage for space constrained devices
- Highest capacity standard 1.8" SSD with up to 2.0 TB
- Rugged design for Defense and Industrial applications
- Extensive SMART for health monitoring
- Military grade Data Elimination (DE)
- Hardware and/or software DE triggering options
- Hardware or software enabled Write Protect
- AES-256, various SED management schemes
- Sudden Power Loss Safeguard logic and circuit
- All Industrial grade SSDs include conformal coating
- Custom firmware and feature set are available

### Specification

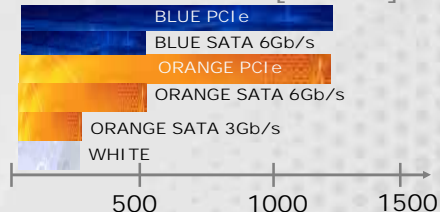
Standard Form Factor	1.8" / 5 mm H
Interface	SATA 6Gbps option for maximum performance, or SATA 3Gbps option for minimum power consumption
Data throughput	SATA III: up to 550 MB/s SATA II: up to 250 MB/s
Maximum Capacity	• up to 2048 GB MLC NAND • up to 1024 GB SLC NAND
Temperature Range	• -40°C to 85°C Industrial/Military • 0°C to 70°C Commercial
Vibration/shock	• 16.3 GRMS/100G
Operating voltage	• 3.3V±10%
Data Reliability	• Flash managed by static and dynamic wear leveling and powerful ECC/EDC/CRC • Uncorrectable bit error rate (UBER): less than 10 <sup>-16</sup>
Data Retention	• 10 y beginning of SSD life • 1 y at the end of life
Endurance	• up to 768 TB (1024 GB MLC NAND) • up to 6144 TB ( 512 GB SLC NAND)
Data Security	• Optional TCG OPAL V2.0 Self Encrypted Drive (SED) • Optional FIPS 140-2 SED • Enhanced ATA Security/Authentication support • Military grade Data Elimination • HW and/or SW Write Protect
Component reliability	• MTBF: 1,000,000
Health monitoring	• S.M.A.R.T. to report system health • Thermal performance monitoring and management

# Memkor Orange Series 1.8" uSATA—Mechanical



## Memkor General Application and Product Guide

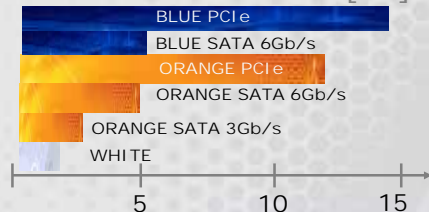
### Performance [MB/s]



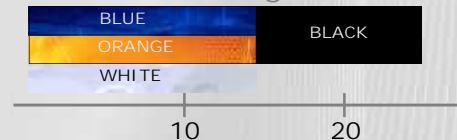
### Capacity [GB] [MLC NAND]



### MAX Power Draw [W]



### Ruggedization Vibration [g's RMS]



## Ordering Information

**Model:** MKD ff ii xxx y O - O2 s n ee ww

Model: MKD ff ii xxx y O					
Memkor SSD	Form Factor ff:	Interface ii:	Capacity xxx:	Operating temp	Series
MKD	18—1.8" uSATA	ST - SATA	256 - 256 GB 512 - 512 GB 2T0 - 2048 GB	C - 0° to 70°C I - -40° to 85°C	O - ORANGE

D - default  
I - Low  
H - High  
E - Enabled  
SE - Secure Erase  
WP - Write Protect

- O2 s n ee ww				
Technology Code	Secure Erase: s	NAND: n	Encryption: ee	Write Protect: ww
O1 - up to 512GB O2 - 2048 GB L2 - SATA II	0 - no SE (D) Ask us about available options	- SLC (D) M - MLC	- No Encryption (D) Ask us about available options	- no WP (D) Ask us about available options